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SEQUENCE LISTING

<110> Hanke, Paul D.

<120> Feedback-Resistant Pyruvate Carboxylase Gene from *Corynebacterium*

<130> 1533.1230001

<140> US 09/974,973

<141> 2001-10-12

<150> US 60/239,913

<151> 2000-10-13

B15
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<170> PatentIn version 3.0

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<212> DNA

<213> *Corynebacterium glutamicum*

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gct	acc	tac	ttt	gct	gca	gct	caa	gct	ggc	gca	gat	gct	gtt	gac	ggc	2352
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<212> PRT

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Ala 100	Ala Lys Lys Val	Lys 100	Ala Asp Ala	Ile 105 Tyr Pro Gly Tyr Gly Phe 110
Leu 115	Ser Glu Asn Ala	Gln 115	Leu Ala Arg Glu	Cys 120 Ala Glu Asn Gly Ile 125
Thr 130	Phe Ile Gly Pro	Thr 130	Pro Glu Val Leu	Asp 135 Leu Thr Gly Asp Lys 140
Ser 145	Arg Ala Val Thr	Ala 145	Ala Lys Lys Ala	Gly 150 Leu Pro Val Leu Ala 160
Glu 165	Ser Thr Pro Ser	Lys 165	Asn Ile Asp Asp	Ile 170 Val Lys Ser Ala Glu 175
Gly 180	Gln Thr Tyr Pro	Ile 180	Phe Val Lys Ala	Val 185 Ala Gly Gly Gly Gly 190
Arg 195	Gly Met Arg Phe	Val 195	Ser Ser Pro Asp	Glu 200 Leu Arg Lys Leu Ala 205
Thr 210	Glu Ala Ser Arg	Glu 210	Ala Glu Ala Ala	Phe 215 Gly Asp Gly Ser Val 220
Tyr 225	Val Glu Arg Ala	Val 225	Ile Asn Pro Gln	His 230 Ile Glu Val Gln Ile 240
Leu 245	Gly Asp Arg Thr	Gly 245	Glu Val Val His	Leu 250 Tyr Glu Arg Asp Cys 255
Ser 260	Leu Gln Arg Arg	His 260	Gln Lys Val Val	Glu 265 Ile Ala Pro Ala Gln 270
His 275	Leu Asp Pro Glu	Leu 275	Arg Asp Arg Ile	Cys 280 Ala Asp Ala Val Lys 285
Phe 290	Cys Arg Ser Ile	Gly 290	Tyr Gln Gly Ala	Gly 295 Thr Val Glu Phe Leu 300

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305 310 315 320

Gln Val Glu His Thr Val Thr Glu Glu Val Thr Glu Val Asp Leu Val
325 330 335

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385 390 395 400

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405 410 415

Val Lys Met Thr Cys Arg Gly Ser Asp Phe Glu Thr Ala Val Ala Arg
420 425 430

Ala Gln Arg Ala Leu Ala Glu Phe Thr Val Ser Gly Val Ala Thr Asn
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Arg Ile Ala Thr Gly Phe Ile Gly Asp His Pro His Leu Leu Gln Ala
465 470 475 480

Pro Pro Ala Asp Asp Glu Gln Gly Arg Ile Leu Asp Tyr Leu Ala Asp
485 490 495

Val Thr Val Asn Lys Pro His Gly Val Arg Pro Lys Asp Val Ala Ala
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Pro Ile Asp Lys Leu Pro Asn Ile Lys Asp Leu Pro Leu Pro Arg Gly
515 520 525

Ser Arg Asp Arg Leu Lys Gln Leu Gly Pro Ala Ala Phe Ala Arg Asp
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Ala His Gln Ser Leu Leu Ala Thr Arg Val Arg Ser Phe Ala Leu Lys
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625 630 635 640

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Ala Glu Val Ala Met Ala Tyr Ser Gly Asp Leu Ser Asp Pro Asn Glu
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725 730 735

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Ala	Ala	Val	Asn	Glu	Met	Leu	Gly	Arg	Pro	Thr	Lys	Val	Thr	Pro	Ser		
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Ser	Lys	Val	Val	Gly	Asp	Leu	Ala	Leu	His	Leu	Val	Gly	Ala	Gly	Val		
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Gly	Arg	Glu	Thr	Leu	Ile	Arg	Leu	Pro	Asp	Val	Arg	Thr	Pro	Leu			
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Leu	Val	Arg	Leu	Asp	Ala	Ile	Ser	Glu	Pro	Asp	Asp	Lys	Gly	Met			
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-11-

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Ser	Phe 50	His	Arg	Ser	Phe	Ala 55	Ser	Glu	Ala	Val	Arg 60	Ile	Gly	Thr	Glu
Gly 65	Ser	Pro	Val	Lys 70	Ala	Tyr	Leu	Asp	Ile 75	Asp	Glu	Ile	Ile	Gly	Ala 80
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Ser	Glu	Asn 100	Ala	Gln	Leu	Ala	Arg	Glu 105	Cys	Ala	Glu	Asn	Gly 110	Ile	Thr
Phe	Ile	Gly 115	Pro	Thr	Pro	Glu	Val 120	Leu	Asp	Leu	Thr	Gly 125	Asp	Lys	Ser
Arg 130	Ala	Val	Thr	Ala	Ala	Lys 135	Lys	Ala	Gly	Leu	Pro 140	Val	Leu	Ala	Glu
Ser 145	Thr	Pro	Ser	Lys 150	Asn	Ile	Asp	Glu	Ile 155	Val	Lys	Ser	Ala	Glu	Gly 160
Gln	Thr	Tyr	Pro	Ile 165	Phe	Val	Lys	Ala	Val 170	Ala	Gly	Gly	Gly	Gly 175	Arg
Gly	Met	Arg 180	Phe	Val	Ala	Ser	Pro	Asp 185	Glu	Leu	Arg	Lys	Leu 190	Ala	Thr
Glu	Ala	Ser 195	Arg	Glu	Ala	Glu	Ala 200	Ala	Phe	Gly	Asp	Gly 205	Ala	Val	Tyr
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Gly 225	Asp	His	Thr	Gly 230	Glu	Val	Val	His	Leu	Tyr 235	Glu	Arg	Asp	Cys	Ser 240
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Leu	Asp	Pro	Glu 260	Leu	Arg	Asp	Arg	Ile 265	Cys	Ala	Asp	Ala	Val 270	Lys	Phe
Cys	Arg	Ser 275	Ile	Gly	Tyr	Gln	Gly 280	Ala	Gly	Thr	Val	Glu 285	Phe	Leu	Val

Asp	Glu	Lys	Gly	Asn	His	Val	Phe	Ile	Glu	Met	Asn	Pro	Arg	Ile	Gln
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Val	Glu	His	Thr	Val	Thr	Glu	Glu	Val	Thr	Glu	Val	Asp	Leu	Val	Lys
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Ala	Gln	Met	Arg	Leu	Ala	Ala	Gly	Ala	Thr	Leu	Lys	Glu	Leu	Gly	Leu
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Thr	Gln	Asp	Lys	Ile	Lys	Thr	His	Gly	Ala	Ala	Leu	Gln	Cys	Arg	Ile
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Lys	Met	Thr	Cys	Arg	Gly	Ser	Asp	Phe	Glu	Thr	Ala	Val	Ala	Arg	Ala
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Gln	Arg	Ala	Leu	Ala	Glu	Phe	Thr	Val	Ser	Gly	Val	Ala	Thr	Asn	Ile
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Ile	Ala	Thr	Gly	Phe	Ile	Ala	Asp	His	Pro	His	Leu	Leu	Gln	Ala	Pro
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Thr	Val	Asn	Lys	Pro	His	Gly	Val	Arg	Pro	Lys	Asp	Val	Ala	Ala	Pro
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Arg	Glu	Gln	Asp	Ala	Leu	Ala	Val	Thr	Asp	Thr	Thr	Phe	Arg	Asp	Ala
	530					535					540				
His	Gln	Ser	Leu	Leu	Ala	Thr	Arg	Val	Arg	Ser	Phe	Ala	Leu	Lys	Pro
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Ala	Ala	Glu	Ala	Val	Ala	Lys	Leu	Thr	Pro	Glu	Leu	Leu	Ser	Val	Glu
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Tyr	Pro	Asp	Ser	Val	Cys	Arg	Ala	Phe	Val	Lys	Glu	Ala	Ala	Ser	Ser	625	630	635	640
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Met	Arg	Pro	Ala	Ile	Asp	Ala	Val	Leu	Glu	Thr	Asn	Thr	Ala	Val	Ala	660	665	670	
Glu	Val	Ala	Met	Ala	Tyr	Ser	Gly	Asp	Leu	Ser	Asp	Pro	Asn	Glu	Lys	675	680	685	
Leu	Tyr	Thr	Leu	Asp	Tyr	Tyr	Leu	Lys	Met	Ala	Glu	Glu	Ile	Val	Lys	690	695	700	
Ser	Gly	Ala	His	Ile	Leu	Ala	Ile	Lys	Asp	Met	Ala	Gly	Leu	Leu	Arg	705	710	715	720
Pro	Ala	Ala	Val	Thr	Lys	Leu	Val	Thr	Ala	Leu	Arg	Arg	Glu	Phe	Asp	725	730	735	
Leu	Pro	Val	His	Val	His	Thr	His	Asp	Thr	Ala	Gly	Gly	Gln	Leu	Ala	740	745	750	
Thr	Tyr	Phe	Ala	Ala	Ala	Gln	Ala	Gly	Ala	Asp	Ala	Val	Asp	Gly	Ala	755	760	765	
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Ala	Val	Ser	Asp	Leu	Glu	Pro	Tyr	Trp	Glu	Ala	Val	Arg	Gly	Leu	Tyr	805	810	815	
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His	Glu	Ile	Pro	Gly	Gly	Gln	Leu	Ser	Asn	Leu	Arg	Ala	Gln	Ala	Thr	835	840	845	
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Ala	Val	Asn	Glu	Met	Leu	Gly	Arg	Pro	Thr	Lys	Val	Thr	Pro	Ser	Ser	865	870	875	880
Lys	Val	Val	Gly	Asp	Leu	Ala	Leu	His	Leu	Val	Gly	Ala	Gly	Val	Asp	885	890	895	
Pro	Ala	Asp	Phe	Ala	Ala	Asp	Pro	Gln	Lys	Tyr	Asp	Ile	Pro	Asp	Ser	900	905	910	
Val	Ile	Ala	Phe	Leu	Arg	Gly	Glu	Leu	Gly	Asn	Pro	Pro	Gly	Gly	Trp	915	920	925	
Pro	Glu	Pro	Leu	Arg	Thr	Arg	Ala	Leu	Glu	Gly	Arg	Ser	Glu	Gly	Lys	930	935	940	
Ala	Pro	Leu	Thr	Glu	Val	Pro	Glu	Glu	Glu	Gln	Ala	His	Leu	Asp	Ala	945	950	955	960

Asp Asp Ser Lys Glu Arg Arg Asn Ser Leu Asn Arg Leu Leu Phe Pro
 965 970 975

Lys Pro Thr Glu Glu Phe Leu Glu His Arg Arg Arg Phe Gly Asn Thr
 980 985 990

Ser Ala Leu Asp Asp Arg Glu Phe Phe Tyr Gly Leu Val Glu Gly Arg
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Glu Thr Leu Ile Arg Leu Pro Asp Val Arg Thr Pro Leu Leu Val
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Arg Leu Asp Ala Ile Ser Glu Pro Asp Asp Lys Gly Met Arg Asn
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Thr Val Thr Val Ala Glu Gly Asp Glu Val Lys Ala Gly Asp Ala
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Val Ala Ile Ile Glu Ala Met Lys Met Glu Ala Thr Ile Thr Ala
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Ser Val Asp Gly Lys Ile Asp Arg Val Val Val Pro Ala Ala Thr
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Lys Val Glu Gly Gly Asp Leu Ile Val Val Val Ser
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B/5